



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,234	03/19/2004	Michael Wiesinger	66374-151-7	6080
25269	7590	08/08/2005	EXAMINER	
DYKEMA GOSSETT PLLC FRANKLIN SQUARE, THIRD FLOOR WEST 1300 I STREET, NW WASHINGTON, DC 20005			BONANTO, GEORGE P	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/804,234	Applicant(s) WIESINGER ET AL.	
	Examiner George P. Bonanto	Art Unit 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: the specification to which the oath or declaration is directed has not been adequately identified. See MPEP § 602.

Specification

The disclosure is objected to because of the following informalities: the specification, in the third paragraph on page 6, contains the phrase, “a diaphragm 23 is clamped between a lower housing 21 and an upper housing 23 whereby the diaphragm 23 . . .” The elements “upper housing” and “diaphragm” are referred to with the same reference numeral. It appears as though the correct reference numeral for the element “upper housing” is reference numeral 22.

In addition, the specification, in the second full paragraph on page 7, contains the phrase, “which preferably flows continuously through the boring 52 into the upper housing 52 and flows out again through the boring 53.” The elements “boring” and “upper housing” are referred to with the same reference numeral. It appears as though the correct reference numeral for the element “upper housing” is reference numeral 42.

Furthermore, the specification, in the first paragraph on page 8, contains the phrase, “whereby this pressure level effects also the closing element 55 in addition to the force of the closing spring 56.” The element, “closing element” should be deleted and the element, “valve”

Art Unit: 2855

should be inserted in its place in order to maintain uniformity. The Appropriate correction is required.

Claim Objections

Claims 1 and 12 are objected to because of the following informalities: claims 1 and 10 contain the phrase, “for continuous measuring of dynamic fluid consumption, particularly of fuel.” The phrase “particularly of fuel” makes the claims indefinite. Appropriate correction is required.

Claim 1 is objected to because of the following informalities: claim 1 contains the phrase, “whereby the pressure beyond the flow sensor.” The claim element “pressure” lacks antecedent basis. Appropriate correction is required.

Claim 2 is objected to because of the following informalities: claim 2 contains the phrase, “conducting a volume of fluid into the pressure regulator and whereby . . .” The word “and” should be deleted. Appropriate correction is required.

Claim 5 is objected to because of the following informalities: Claim 5 contains the phrase, “wherein the pressure regulator (9) is provided with a diaphragm (40).” The phrase should be deleted and the phrase, “wherein the element (40) is a diaphragm.”

In addition, claim 5 contains the phrase, “having a great deflection.” The word “great” should be deleted because it makes the claim indefinite. Appropriate correction is required.

Claim 8 is objected to because of the following informalities: claim 8 contains the phrase, “biased by compressed air with adjustable pressure.” The phrase “with adjustable pressure” should be deleted and the phrase “with an adjustable pressure” should be inserted in its place. Appropriate correction is required.

Art Unit: 2855

Claim 9 is objected to because of the following informalities: claim 9 contains the claim element, "sealing element (49). The claim element should be deleted and the claim element "valve arrangement (49, 50)" should be inserted in its place. Appropriate correction is required.

Claim 10 is objected to because of the following informalities: claim 10 contains the phrase, "the safety valve (54) is biased in the closing direction with compressed air having the same pressure as the one in the catch volume." The claim element "pressure" lacks antecedent basis. Furthermore, the phrase, "as the one in the catch volume" is indefinite. Appropriate correction is required.

Claim 11 is objected to because of the following informalities: claim 11 contains the phrase, "wherein the compressed air connection to the safety valve." The claim element "compressed air connection" lacks antecedent basis. Appropriate correction is required.

Claim 12 is objected to because of the following informalities: claim 12 contains the phrases, "possibly a fuel conditioning system," "preferably a controllable pump," and "preferably a Coriolis sensor." The phrases make the claim indefinite.

In addition, claim 12 contains the phrase, "and a initial-pressure regulator." The word "a" should be deleted and the word "an" should be inserted in its place.

Furthermore, claim 12 contains the phrase, "and the fluid consumer." The claim element "fluid consumer" lacks antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2855

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what pressure provides the bias for the safety valve and how the pressure is related to the catch volume.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what the structure is of "the compressed air connection," or what relationship it has to the other elements of the claim. Furthermore, the meaning of the phrase "can be blocked" is unclear.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what "the initial-pressure regulator" and "the admission pressure" mean.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Published U.S.

Application No 2001/0009161 by Berger.

As to claim 1, Berger discloses guiding a fluid into a pressure regulator upon exceeding a discretionary pressure level (paragraphs 20 and 21 and Fig. 1).

As to claim 2, Berger further discloses conducting a volume of fluid into the pressure regulator and whereby this volume corresponds to the volume causing an increase in pressure (paragraph 37 and Fig. 1).

As to claim 3, Berger further discloses diverting an additional volume of fluid, created by pressure increase, after exceeding the maximum volume that can be moved into the pressure regulator (paragraph 37 and Fig. 1).

As to claim 4, Berger discloses a pressure regulator having a housing (housing 4, Fig. 1 and paragraph 16) which contains an element biased by a changeable force (diaphragm 33 and setting member 26 biased by adjustable presetting force $F_{sub.2}$, paragraph 23 and Fig. 1) whereby said element is coupled to a valve arrangement (head section 53, plunger body 16 and primary control section 15, Fig. 1) that is also arranged in the housing for the fluid to build up pressure therein (paragraphs 34 and 35) wherein the pressure regulator contains a catch volume (comparison chamber 27, Fig. 1).

As to claim 5, Berger further discloses that the element is a diaphragm (diaphragm 33, Fig 1) having a deflection capability (paragraphs 17-19).

As to claim 6, Berger further discloses that the catch volume is biased by an elastic element (paragraphs 21-24).

As to claim 7, Berger further discloses that the elastic element is a compression spring (paragraphs 21 and 22).

As to claim 8, Berger further discloses that the catch volume is biased by compressed air with adjustable pressure (adjustable paragraphs 21 and 23 and fluid force paragraph 24).

As to claim 9, Berger further discloses a safety valve provided downstream from the valve arrangement of the pressure regulator (paragraph 37 and Fig. 1).

As to claim 10, Berger further discloses that the safety valve is biased in the closing direction with compressed air having the same pressure as the one in the catch volume (the force F.sub.2 works with the force provided by spring 58 to close the venting opening, the force F.sub.2 being compressed air in chamber 38 which also biases the diaphragm open, paragraph 37 and 24, also compressed air is disclosed in that the chamber 38 is open to the atmosphere).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,612,895 to Kuroiwa et al. in view of U.S. Pat. No. 6,554,017 to Berger.

Kuroiwa et al. disclose a device for continuous measuring of dynamic fuel consumption comprising a tank (fuel tank, col. 8, lines 58-59) a fuel conditioning system (filter, col. 8, line 59) a controllable fuel pump (fuel pump, col. 8, line 59) a continuously-operating flow sensor for the fuel (fuel flow sensor, col. 8, line 65) and an initial-pressure regulator for the admission pressure between the flow sensor and a fluid consumer. Kuroiwa et al. fail, however, to disclose that the pressure regulator comprises a housing containing a catch volume for the fluid, a valve arrangement and an element biased by a changeable force and coupled to said valve arrangement.

Art Unit: 2855

Berger discloses a pressure regulator comprising a housing (housing, col. 3, line 26) containing a catch volume for fluid (comparison chamber, col. 4, lines 10-14) a valve arrangement (control member, col. 3, line 57 to col. 4, line 6) and an element biased by a changeable force and coupled to the valve arrangement (setting member, col. 4, line 6 to col. 5, line 3).

It would have been obvious to one of ordinary skill in the art to modify the fuel flow sensor system of Kuroiwa et al. by using the pressure regulator of Berger for the pressure regulator in order to ensure one way flow of fuel, and, therefore, accurate measurement of fuel flow, as well as to provide a safety valve for relief of unsafe pressure build-up in the fuel system due to heat expansion.

Conclusion

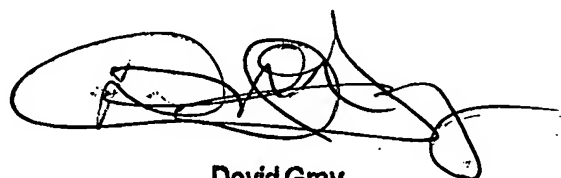
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Pat. Nos. 4,070,070 and 6,318,405 and Published U.S. Application No. 2004/0149336 disclose various pressure regulators and diaphragm biasing techniques.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George P. Bonanto whose telephone number is (571) 272-2182. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David M. Gray can be reached on (571) 272-2119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2855

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'David Gray', with a large, stylized flourish extending to the right.

David Gray
Primary Examiner

GPB